

### Brief description of the drawings

- FIG. 1. Shows how a grouping can send signals to the others in a system.  
 FIG. 2. Shows the Christmas ornament integrated into the system  
 FIGS. 3,4,5. Are block diagrams showing how a system works during the non-holiday season  
 FIG. 6. Is a block diagram showing how a system works during the holiday season  
 FIG. 7. Shows the schematic of the inner workings of the circuit

#### Detailed description of invention

This smoke sensing system will turn on their alarms 5 by remote control through radio frequency transmission and reception. The smoke detectors have all the characteristics of other smoke sensors in prior art except they are capable of sending and receiving RF signals in each unit. A transceiver 3 or transmitter/receiver combination is activated by a smoke sensor circuit 9 through a relay 7 that is latched by an SCR 16. A Battery saver circuit 13 provides a pulsing voltage 15 through the relay 7. An alarm 5 sounds when the SCR 17 is triggered by the output of the transceiver 3. The transceiver 3 remains in receive mode until a signal from another smoke detector is received. When the smoke sensor circuit triggers, the DPDT relay 7 changes the transceiver 3 from receive mode into transmit mode. A thermal sensor 11 is incorporated into the system to detect heat. An antenna 23 allows for transmission and reception quality. A housing 18 can enclose all internal components. The fire detecting Christmas tree ornament 17 can detect fire or smoke on or near the tree during the winter holiday season.

#### ABSTRACT

This invention is an improvement on typical operating smoke sensors or detectors. By allowing remote detection of smoke/heat, the RF signal detectors presented in this document can turn on their alarms when smoke is detected in other rooms and not by all the detectors in a group. The number of detectors in a group is only limited by the size of the structure in which they are installed. During the winter holidays a Christmas tree smoke/heat detector can be hung on the Christmas tree to give advanced warning if the tree was to ignite. The ornament can transmit to the other detectors in a group, turning all alarms on so anyone in the structure can hear an early warning signal and then hopefully abandon the structure in time.

#### Claims1.

1. A wireless smoke sensing system, comprising:
  - (a) multiple smoke sensors capable of sending and receiving RF signals, and
  - (b) each detector having the proper circuitry such as a transceiver system to alarm, send and receive signals by themselves, therefore
  - (c) a smoke sensor can receive an RF signal to turn on an audible warning alarm, and
  - (d) a smoke sensor as claimed in 1.(c) that can alarm and transmit a RF signal from inside the same housing of the receiver, allowing
  - (e) each smoke sensor to alarm and transmit to the others in a group, and
  - (f) a timer activated pulsing circuit to shut on and off the power to the transmission and reception means, saving battery life, and
  - (g) a SCR (Silicone Controlled Rectifier) to latch the reception and transmission of RF signals, and
  - (h) antennas to increase the transmission and reception qualities
2. A wireless Christmas Tree smoke and heat sensing bulb, incorporating:
  - (a) a RF signal that corresponds to the frequency of signals of the smoke sensors in claim 1, and

(b) a test button to prove the system is in operating condition